

**ABSTRACT**

Although negative example can be highly useful to better understand the user's needs in content-based image retrieval, it was considered by few authors. A content-based image retrieval method according to the present invention addresses some issues related to the combination of positive and negative examples to perform a more efficient image retrieval. A relevance feedback approach that uses positive example to perform generalization and negative example to perform specialization is described herein. In this approach, a query containing both positive and negative example is processed in two general steps. The first general step considers positive example only in order to reduce the set of images participating in retrieval to a more homogeneous subset. Then, the second general step considers both positive and negative examples and acts on the images retained in the first step. Mathematically, relevance feedback is formulated as an optimization of intra and inter variances of positive and negative examples.